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**Testimony Before the Committee on Ways and Means, U.S. House of Representatives
Economic Impact of Stadium Projects and Sources of Finance
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Chairman Smith, Ranking Member Neal, and Members of the Committee:

Thank you for the opportunity to provide written testimony regarding the economics of public subsidies for stadiums and arenas. My name is Dennis Coates. I am a Professor of Economics at the University of Maryland, Baltimore County, as well as the editor of the *Journal of Sports Economics*. I have studied and published research in academic peer-reviewed journals on the economic impact of sports facilities and events for over 25 years. I am testifying in my individual capacity and my views do not necessarily represent those of my employer, the University of Maryland, Baltimore County, or the *Journal of Sports Economics*.

There are two related questions before us today. The first question is whether stadium and arena projects are effective tools to develop local economies. The short answer is no. The second question is whether it is good policy to allow the use of state and local issued bonds, whose interest is exempt from federal income taxation, as a source of financing for those stadium and arena projects. There is no short answer to this question. I will flesh out the short answer to the first question before turning to the second question.

The first examinations of subsidies for professional sports franchises were two chapters published by Benjamin Okner in *Government and the Sports Business* (Noll, 1974). In one chapter, Okner covered taxation of sports franchises, including the Roster Depreciation Allowance which is itself a type of subsidy to professional sports clubs. In another chapter, his focus was on public ownership of stadiums and arenas. Okner

frames his discussion around several questions, the most fundamental of which is, “Why are local governments in the stadium rental business at all?” His question was apropos at the time as the country was in a wave of stadium construction built by state and local governments and rented to professional franchises. Examples of such facilities include Three Rivers Stadium (Pittsburgh, 1970), Riverfront Stadium (Cincinnati, 1970), Veterans Stadium (Philadelphia, 1971) and Rich Stadium (Buffalo, 1973).

Okner offered several suggestions for answers to his question. The first answer suggested that stadiums are a good which provides benefits beyond the borders of the jurisdiction that supplies it. In such a case, the amount of that good supplied will be less than the efficient amount. Efficient provision of the good requires subsidization to the supplying jurisdiction to induce it to provide more. A second answer is that to supporters of stadiums, professional sports and professional sports stadiums are necessary to be a “big league city”, an intangible benefit. Additional benefits of a stadium identified by Okner are increases in employment, sales, and tax collection, more recreational opportunities, improved morale of the citizens supporting a successful franchise, and an encouragement of interest in sports among the population. Okner did not evaluate these potential benefits. Nonetheless, in the more than 50 years since Okner’s work, researchers have addressed each of these issues.

Rather than provide a lengthy discussion and review of the literature, I will provide some examples of studies and recommend two recent publications, a survey of the economic impact literature and a discussion of public policy regarding stadiums. These are coauthored by JC Bradbury (Kennesaw State University), Brad Humphreys (West Virginia University), and me. The first of these is in the *Journal of Economic Surveys*, the second is in the *Journal of Policy Analysis and Management* (Bradbury et al., 2023, 2024). The vast majority of the literature concludes that stadiums and arenas, and professional sports franchises, are not effective means of generating either tangible or intangible benefits sufficient to justify the subsidies. Instead, such subsidies are largely redistributive in nature, moving economic activity from one area to another within a city, metropolitan area, state or region, moving income from taxpayers to professional athletes and team owners, from the relatively poor to the relatively wealthy, and from non-sports fans to sports fans. There is, however, disagreement on the implications one should draw from that vast majority of the literature and whether it constitutes a consensus. (Bradbury & Humphreys, 2026; Johnson et al., 2025)

Research into the impact of stadium and arena construction on local economies began in earnest in the late 1980s (Baade & Dye, 1988, 1990). Baade and Dye's (1988, 1990) research focused on impacts on metropolitan area level statistics like incomes and employment, and found little evidence of a systematic relationship between constructing a stadium or having professional sports franchises and those outcomes. As a simple matter of economic theory, the lack of any impact from stadium construction or the presence of professional sports franchises on economic growth is comforting. Sources of economic growth are a growing population with improving skills and knowledge, a growing capital stock, and technological progress. Nothing about professional sports or stadium construction is necessarily connected to any of these sources of growth.

My first published work in this area (Coates & Humphreys, 1999) extended the earlier analyses by incorporating information on each of the NFL, MLB and NBA into the same analysis. We included presence of franchises, exit and entrance of franchises, whether due to expansion, relocation or league mergers, and construction of stadiums and arenas. Our findings suggested that the overall impact of the professional sports environment was a reduction in per capita personal income in the metropolitan area. We attribute this reduction to a difference between the multiplier when money is spent inside a stadium at a sporting event and when that same money is spent in other entertainment options. Specifically, franchise owners and players differ from general citizens in two ways. They are at the time of playing wealthier than the typical citizen and likely to live a substantial portion of a year outside of the city in which they play. Being wealthier, owners and players will tend to save a larger share of their income than the typical resident. By living only part of the season where they play, players take salary earned in one community and spend it in another. The impact of these differences between players owners and regular residents is to mute the multiplier effect of new spending in the community. Each dollar spent in the stadium generates fewer and smaller ripples through the community than a dollar spent elsewhere in the community.

After this first work on the impact of stadiums and professional sports franchises on communities, Humphreys and I investigated a variety of other issues. For example, we searched for the impact of professional sports on earnings and employment in different sectors of local economies (Coates & Humphreys, 2003). A common argument is that professional sports generate tourism flows that will increase employment and earnings

in hotels, bars, and eating establishments. Our analysis found no impact on employment or on wages in most sectors of the economy. The only place that we found an increase in wages was in the recreation sector which includes the professional athletes. Other workers in this sector include recreation personnel, arcade game parlor employees, movie theater ticket-takers, and ushers. It is not surprising that including professional athletes in a group made-up predominantly of relatively low wage employees would lead to an increase in the average earnings of workers.

Since the early days of research into the impacts of stadiums and arenas, much has changed in the data and methods used, but the implications of the analysis are largely the same. Data has become available not just at the city level but also at the census tract and even at the individual property level. New empirical techniques allow testing for causal rather than merely correlational relationships to be estimated. The more recent studies on economic impact have focused on these local effects and the extent to which those effects extend away from the stadium or arena. For example, Gabriel Ahlfeldt and Wolfgang Maennig (Ahlfeldt & Maennig, 2010) estimated the impact of distance from three sports facilities on land values in Berlin, Germany. The results indicated land values were higher up to about 3000 meters from the facilities. Feng & Humphreys (2016) used transaction data on residences in Columbus, OH to estimate the impact of proximity to Nationwide Arena, home of the Columbus Blue Jackets of the National Hockey League, and Crew Stadium, the home facility of the Columbus Crew of Major League Soccer. Rather unusually, both facilities were privately financed. For both the arena and the stadium, the evidence shows that values are greater nearer to the facility. The implication is that there may be intangible benefits to property owners near to the facilities. However, Nationwide Arena is in downtown Columbus making it difficult to separate the impact of the arena from the influence of proximity to the central city.

Numerous other studies have found the same kind of results as the Ahlfeldt and Maennig and Feng and Humphries studies. One inference that can be drawn from these studies is that facilities may raise property values or economic activity close to them but that does not extend more than a couple of miles and certainly not to the entire metropolitan area. If one considers both potential benefits and the offsetting increase in taxes used to finance construction and operation of the facilities these findings mean that some taxpayers, those close to the facilities, reap benefits paid for by taxpayers not

near the facilities. If the focus is on a single metropolitan area, one might conclude that the stadium or arena subsidies were good for the economy; some people gained, and know people were made worse off. This conclusion is not valid supporting the subsidy extends far beyond when the area where the stadium may provide local benefits. This is precisely the case of the exemption from federal income tax of interest paid on state and local government bonds used to finance a stadium. Taxpayers in Chadron, NE and Selma, AL, foot some of the bill for any stadium financed with tax exempt state and local bonds but reap none of the purported benefits from such a stadium whether built in Nashville, Chicago, Buffalo, or Kansas City.

This brings us to the second question, whether it is good policy to use state and local government bonds to finance stadium and arena construction. As the Committee Members know, not all state and local bond interest is exempt from the federal income tax. Professional sports franchises and state and local governments work very hard to ensure that bonds issued by those governments to support construction of stadiums satisfy the conditions for the interest paid on those bonds to be exempt from the federal income tax.

Congress has been concerned about this issue for at least four decades, with many members believing it was bad policy. As Byron Dorgan said in 1996, "We thought we shut down public financing to private sports stadiums in 1986" (in the Tax Reform Act of 1986), and "Now a decade later, we see that the only remaining healthy public housing is in sports stadiums for wealthy team owners. We thought we closed a loophole and they found a way through it." (New York Times Company, 1996b). Senator Moynihan proposed Senate bill 1880 in June of 1996 to stop issuance of tax-exempt arena debt. Senator Moynihan stated that the purpose of this bill was to "correct a serious misallocation of our limited resources" (New York Times Company, 1996a). The misallocation to which he referred takes multiple forms. One misallocation was local financial support going to stadiums rather than roads, bridges and schools. Senator Moynihan also noted that private investment decisions were not made based on which project had the greatest return on investment, but rather which project was favored by the tax system. He also noted the loss of revenue to the Treasury, a concern I will cover in detail below.

In his June 14, 1996 speech introducing "The Stop Tax-Exempt Arena Debt Issuance Act", Senator Moynihan refers "to the large number of professional sports facilities

subsidized in recent years through the issuance of tax-exempt bonds. It seems that nearly every day, another professional sports franchise owner demands a new stadium, one subsidized by Federal, State and local taxpayers.” (Congressional Record, 1996) He argues that one of the purposes of the Tax Reform Act of 1986 was to bar this practice. It should be noted that in the decade prior there were 4 team relocations each in the NHL and NBA, and 2 in the NFL, with four of the ten clearly linked to tax-exempt financing of a facility. Senator Moynihan contended that the original purpose of the exemption was to enable state and local governments to more readily afford legitimate government purposes such as roads, bridges and schools, not as a work-around to enable low-cost government borrowing to support purely private purposes. Senator Moynihan further argued that existing stadiums were in good shape and able to host sporting events for many years to come. Team ownership sought new facilities simply to increase their ability to profit from putting on sporting events.

Senator Moynihan makes clear that he does not see a valuable or compelling public purpose in constructing sports facilities for professional teams. He is not, however, opposed to their construction. Indeed, in introducing the bill he explicitly says, “Let the new stadiums be built. But, please, not at the expense of the American taxpayer.” This legislation was not seriously considered in part because it faced substantial opposition. Much of the opposition arose because Moynihan had put a retroactive effective date on the bill, putting ongoing stadium and arena plans at risk. (Burke, 1997) Indeed, Senator Moynihan commented that the new issuance of tax-exempt bonds is “all the more egregious” because “We wrote special rules that allowed the tax-exempt financing of virtually every stadium in the planning or gleam-in-the-eye stages”. The situation has not improved and, in the intervening years, similar bills have been introduced, including one in 2025, but none have gained traction.

Gayer et al. (2016) examine the costs of the use of tax-exempt bonds to finance sports facilities for professional teams. Their focus is on facilities constructed, renovated since 2000, or under construction at the time of writing; there were 45 such facilities, 36 of which used tax-exempt bonds as a funding source. They approximated the principal on the tax-exempt bonds for those 36 facilities at \$13 billion and calculated the difference in the present value of the interest payments on that principal between the market rate and the tax favored rate. The difference depended on the discount rate, ranging from \$2.6 billion at a 5% discount rate and \$3.2 billion at a 3% rate. To be clear, this analysis means that the federal taxpayer subsidized the construction of sports

facilities for professional sports teams by between \$2.6 and \$3.2 billion over the period from 2000 to 2014.

It may be that Congress intended to subsidize professional sports in this way and by this much money. However, the difference reflected above is an underestimate of the amount of money lost to the federal treasury. The reason this is an underestimate is because tax exemptions are an inefficient means of providing subsidies. This inefficiency arises because of the increasing marginal tax rates of the federal income tax system.

To understand this, consider 2 taxpayers, one facing a high marginal tax rate of 50%, the other a low marginal tax rate of 10%. If the taxable interest rate is, say, 10%, the after-tax return to the high marginal tax rate person will be 5%, but to the low marginal rate person it will be 9%. If both individuals buy tax-exempt state and local government bonds, then the interest rate on those bonds must be 9%. If it were otherwise, investors would sell the low rate of return bonds and buy the high rate of return bonds. This arbitrage equates the after-tax return the low-tax person can get on a taxable bond with that they can get on the tax-exempt bond. The state and local government borrowing the money saves 1% in interest rate on the lending from both taxpayers. The federal government loses 1% on the low-income taxpayer but 5% on the high-income taxpayer. If \$100 is borrowed from each of the taxpayers, at the 10% (taxable) interest rate, the high-income taxpayer would have received \$10 in interest income of which \$5 would be paid in taxes for an after-tax income of \$5. The low-income taxpayer would have received \$10 in interest income and paid \$1.00 in taxes, for after tax income of \$9. The federal government collects \$6 in interest income tax. If both taxpayers lend at the tax-exempt rate, both receive \$9 in interest income, and the federal government receives nothing in interest income tax.

Without the tax-exemption, state and local government pays \$20 in interest on its borrowing and the federal government collects \$6 of revenue. The wealthier taxpayer has \$5 in after-tax income, the poorer taxpayer has \$9 in after tax income. With the exemption, state and local government pays \$18 in interest, but the federal government collects no tax revenue. Both taxpayers have \$9 in after-tax income. The exemption saves the state and local borrower \$2 at the cost of \$6 of revenue to the federal treasury, with the difference landing in the pocket of the wealthier taxpayer. In this very stylized example, each dollar of subsidy cost the federal treasury \$3. Gayer et al. (2016)

estimate that each dollar of stadium subsidy cost the federal treasury about \$1.15, implying that about 13% of the cost to the treasury is wasted. To provide a bit more context, consider that Tennessee and Nashville will borrow \$1.2 billion to build a stadium for the Tennessee Titans of the NFL, a bit more than the \$1.03 billion borrowed to finance the Barclays Center in Brooklyn, NY. Gayer et al. (2016) estimated the subsidy on the Barclays Center at \$182 million. If the subsidy to the Titans' facility is the same \$182 million, a conservative guess, then the loss in revenue to the federal treasury above the subsidy amount will be upwards of \$55 million.

The law, Tax Reform Act of 1986, does not allow more than 10% of debt service to come from stadium generated revenues. This restriction has been taken to mean that ticket surcharges, for example, could not be collected to cover costs of the debt. Contrary to the intention of the drafters of TRA86 to curtail state and local tax-exempt bonds to finance stadiums, the result was for local governments and teams to find other sources of revenue to fund debt service.

Coates & Depken (2018) reviewed taxes used to finance stadiums and arenas. In 2001, more than two-thirds of the 99 facilities operating used some general revenues to cover stadium expenses. In other words, stadium funding came at the expense of other state and local public services. Local governments used add-ons to their general sales tax, hotel and car rental taxes, and sin taxes on alcohol, tobacco and gambling. Obviously, none of these taxes are meaningfully linked to the stadium, satisfying the condition of TRA86. Taxes on hotel stays and rental cars are an attempt to export taxes, ie, fund the stadium in one community from taxes imposed on visitors to the city.

A particularly creative way to fund the stadium is called "payment in lieu of taxes", PILOT, a scheme pioneered in New York to fund New Yankee Stadium. Traditionally, PILOTs were a way for local governments to receive payment for services like police and fire protection and garbage collection from not-for-profit entities that were often exempt from paying property taxes. Professional sports franchises are, of course, for-profit enterprises yet often exempt from property taxes. Under the PILOT scheme, local government borrows at the tax-exempt rate, which the sports franchise cannot do, and the franchise makes payments in lieu of taxes which the borrower uses to pay off the stadium debt. Effectively, the franchise borrows at the tax-exempt rate skirting the law against using tax-exempt debt for private activity.

In conclusion, there is little evidence that stadiums and arenas built for professional sports franchises result in measurable increases in incomes, tax revenues, or employment in the metropolitan areas that build them. What benefits there may be are highly localized to within a mile or two of the facility. The use of tax-exempt state and local bonds to finance construction of the facilities is problematic in ways that have been known for decades. Among these are diversion of scarce resources from fundamental activities expected of local governments, like provision of emergency services, highways, bridges and education, loss of revenue to federal treasury, and inefficient subsidization of local activities.

Thank you for your time. I stand ready to answer any questions the committee may have. It is good

Respectfully submitted,

A handwritten signature in cursive script that reads "Dennis Coates".

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